

JOINT COMMITTEE ON GOVERNMENT AND FINANCE  
WEST VIRGINIA OFFICE OF THE LEGISLATIVE AUDITOR

# POST AUDIT DIVISION

LEGISLATIVE AUDIT REPORT

## WVOASIS - PAYMENT FOR KNOWLEDGE TRANSFER THAT DIDN'T OCCUR

Legislative Auditor: Aaron Allred  
Post Audit Director: Denny Rhodes



JOINT COMMITTEE ON  
GOVERNMENT & FINANCE

*Note: On Monday, February 6, 2017, the Legislative Manager/ Legislative Auditor's wife, Elizabeth Summit, began employment as the Governor's Deputy Chief Counsel. Most or all the actions discussed and work performed in this report occurred after this date. However, the Governor's Deputy Chief Counsel was not involved in the subject matter of this report, nor did the audit team have any communications with her regarding the report. As Deputy Chief Counsel, the Legislative Auditor's wife is not in a policy making position within the Executive Branch. Therefore, the Post Audit Division does not believe there are any threats to independence with regard to this report as defined in A3.06.a and A3.06.b of the Generally Accepted Government Auditing Standards. Furthermore, the Legislative Auditor has instructed the Director of the Post Audit Division to document and discuss any issues he believes are a threat to the division's independence with the President of the Senate and the Speaker of the House due to Ms. Summit's position.*

OFFICE OF THE  
LEGISLATIVE AUDITOR  
Legislative Manager & Legislative Auditor, Aaron Allred



GENERALLY ACCEPTED GOVERNMENT  
AUDITING STANDARDS STATEMENT

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards (GAGAS). Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

POST AUDIT DIVISION  
Director, Denny Rhodes

# POST AUDIT DIVISION

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OCTOBER 15, 2017  
LEGISLATIVE AUDIT REPORT

wvOASIS

*Payment for Knowledge  
Transfer That Didn't  
Occur*

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18.C FORMAL KNOWLEDGE  
TRANSFER SIGN-OFF 6/30/14

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18.D FORMAL KNOWLEDGE  
TRANSFER SIGN-OFF 10/19/15

### LEGISLATIVE AUDITOR'S STAFF CONTRIBUTORS

Denny Rhodes ..... Director  
Justin Robinson ..... Audit Manager  
Casey Forbes ..... Attorney, Legislative Services

## **In 2014 and 2015, the Enterprise Resource Planning Board Paid CGI for Knowledge Transfer Services That, To This Day, Are Not Fully Rendered. These Services Would Have Allowed the State to Independently Operate the wvOASIS System. As a Result, the Board Had to Pay High-Priced Consultants to Operate the System and to Provide the Knowledge Transfer Not Provided by CGI.**

### **Background**

The State of West Virginia has contracted with three primary vendors/consultants to implement its ERP system. The new system, which ultimately became wvOASIS, replaced the West Virginia Financial Information Management System, also known as FIMS, and integrated with other state computer systems. The initial contract began in May 2010 with Salvaggio, Teal and Associates, which subsequently was acquired by Information Services Group, Inc. (ISG<sup>1</sup>) the following year. Ultimately, the ISG consulting work has spanned most of the lifecycle of the ERP project (until the contract was not renewed in May 2017) including planning, selection of the eventual software vendor, implementation, and support. In 2011, the Legislature created the Enterprise Resource Planning Board consisting of the Governor, Auditor, and Treasurer to:

*...develop, implement, and manage the Enterprise Resource Planning System.*

ISG assisted the Board in selecting the eventual software vendor, and the State contracted with CGI Technologies and Solutions Inc. (CGI), to provide wvOASIS. The third primary vendor/consultant is Dataview. It was formed by former CGI employees in 2013 and subsequently in 2014 became an ISG subcontractor on the West Virginia ERP project. Dataview currently contracts with the State, having taken over the functions of ISG.

In June 2017, the Legislative Auditor released a report criticizing the Enterprise Resource Planning Board for unnecessarily spending millions of dollars by allowing consultants to imbed themselves in line functions instead of training employees to perform critical operational functions. Notably, state employees were unable to process payroll for state employees without the assistance and knowledge of consultants. According to wvOASIS officials, state employees have been able to process payroll independently since August 2017.

### **The Legislative Auditor Has Concerns with the Enterprise Resource Planning Board Paying CGI in Advance for Knowledge Transfer That Had Not Been Completed**

As part of the State's contract, CGI is required to transfer the operational knowledge of the wvOASIS system to state employees allowing for the system to be operated independently. As the

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<sup>1</sup> Information Services Group (ISG) is one of the "doing business as" names for Information Consulting Acquisition Corporation (ICAC).

Legislative Auditor highlighted in the June 2017 Post Audits Subcommittee meeting, these knowledge transfers have been an issue that has allowed contractors to imbed themselves into the project requiring the State to continue to pay high-priced contractors (CGI, ISG, and Dataview) to operate the system when state employees if properly trained by CGI would cost the State significantly less.

In reviewing this issue further, the Legislative Auditor obtained *Formal Knowledge Transfer Sign-Off* documents prepared by CGI, reviewed by ISG (additional high-priced consultants) and wvOASIS ERP staff, and signed by the former wvOASIS Project Director and current Project Manager. These documents list specific areas of knowledge transfer regarding different phases of the wvOASIS project; the state employee that was assigned to the knowledge transfer area; and the dates the knowledge transfer was assigned, due on, and completed on. However, much of the required knowledge transfer was not completed. It appears that the ERP Board paid CGI for knowledge transfers that did not occur. **This in turn resulted in the ERP Board having to hire additional high-priced consultants with Dataview, a company formed during the wvOASIS project and comprised of former CGI employees who were working on the project, to provide the knowledge transfers that were not completed by CGI.** The Legislative Auditor has the following four concerns regarding these knowledge transfers and associated documents:

1. Knowledge Transfer Documents Signed by wvOASIS Project Leaders Without Knowledge Transfer Being Complete
2. Knowledge Transfer Documents Served as the Trigger to Generate CGI Invoices Billing the State
3. wvOASIS Enterprise Readiness Team Lead Reviewed Documents Without A Full Understanding
4. wvOASIS Staff Confirms That in Some Areas the Knowledge Transfers Are Still Not Completed; Three Years After the ERP Board Paid for the Knowledge Transfer

### **Knowledge Transfer Documents Signed by wvOASIS Project Leaders Without Knowledge Transfer Being Complete**

These documents, although signed, include blank “completed on” sections with no corresponding completion dates for any of the listed knowledge transfer areas. (See Figure 1) The wvOASIS Project Manager, as well as the Chief Information Officer, indicated to us that not all knowledge transfer areas in those documents had been completed prior to the documents being reviewed and signed, and that many have yet to be completed today. Further, the Chief Information Officer and the Project Manager of wvOASIS stated it was understood that these documents would be signed before the knowledge transfer was completed and that the knowledge transfer would be completed at some undefined later date. These documents for Phase C and Phase D were signed in June 2014 and October 2015 respectively.

**Figure 1 – Excerpt from Phase C Formal Knowledge Transfer Sign-Off Document**

State of West Virginia				Enterprise Resource Planning Project		
<b>Exhibit 3: Phase C Knowledge Transfer Progress</b>						
Phase C Goal	Role	Assigned to	Assigned on	Due on	Completed on	Output
<b>Knowledge Transfer Area: Infrastructure / Technical</b>						
Define, Setup and Execute Batch Cycles	Batch Administration	Casey Hill	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
HP Blades Admin; HP 3Par Storage Admin; VM Ware Admin; Linux and Windows Admin	Hardware Engineer/ Server Admin	Fred Branham	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Manage developed forms in Advantage and Central Pro	Configuration Management	Casey Hill	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Prepare and deploy builds and patches	Configuration Management	Casey Hill	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Create and maintain Source Control Repositories	Configuration Management	Casey Hill	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Create and maintain CM checklists and configurations	Configuration Management	Casey Hill	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Database operational maintenance	Database Administrator	Eric Dye	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
ETL execution, monitoring and trouble shooting	Extract/ Transfer / Load (ETL) Admin or Operation	Casey Hill	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Application Server and Installation and Administration	Middleware/ System Admin	Fred Branham	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
 Deliverable #18.C: Formal Knowledge Transfer Sign-Off © 2014 CGI Technologies and Solutions Inc. All rights reserved.						10 of 11

## Knowledge Transfer Documents Served as the Trigger to Generate CGI Invoices Billing the State

We were also informed by the wvOASIS Project Manager that the signing of these *Formal Knowledge Transfer Sign-Off* documents served as authorization for CGI to invoice the State for the completion of knowledge transfers to state employees related to each of the areas listed in the documents, all of which lacked the “completed on” dates, as previously noted. The Legislative Auditor questions these invoices, totaling approximately \$271,000, for knowledge transfer deliverables for Phases C and D that were not yet completed. Many of these knowledge transfer areas are still not completed today. Further, in addition to paying for services not rendered, it appears that the lack of knowledge transfer to the State resulted in substantial indirect costs when the State had to contract with high-priced consultants to operate the ERP system.

## **wvOASIS Enterprise Readiness Team Lead Reviewed Documents Without A Full Understanding**

The Legislative Auditor met with the State Lead of the wvOASIS Enterprise Readiness Team who was a reviewer of the *Formal Knowledge Transfer Sign-Off* documents for the State. We inquired as to why those documents were signed when the dates indicating that the knowledge transfers were completed were missing. The employee replied she was unaware. The employee's role in the review process was not technical in nature, and the employee stated she did not understand much of the language regarding the knowledge transfer areas within those documents. The employee stated that their review of the documents was mostly for form and not content, but could not tell us why the document was signed when what seems to be critical information of the dates knowledge transfers were "completed on" were missing. While the State Lead may be proficient in other areas of her job, the Legislative Auditor questions why she was involved in reviewing a document that contained technical information that she clearly did not understand. Her review along with others resulted in CGI invoicing the State for activities that were not completed.

## **wvOASIS Staff Confirms That in Some Areas the Knowledge Transfers Are Still Not Completed; Three Years After the ERP Board Paid for the Knowledge Transfer**

Within the *Formal Knowledge Transfer Sign-Off* documents, several state employees are identified as being those to whom certain functional knowledge areas of the wvOASIS system were assigned. We met with one of those state employees who was assigned eight knowledge transfer areas in both Phase C and D of the wvOASIS project to determine the status of those knowledge transfer areas, both at the time the *Formal Knowledge Transfer Sign-Off* documents were signed and currently. This employee confirmed that none of the eight knowledge transfer areas assigned to him were completed at the time the *Formal Knowledge Transfer Sign-Off* documents were signed. Currently, two of those knowledge transfer areas are yet to be completed. One of the areas that remains incomplete, *Create and Maintain Source Control Repositories*, is a critical area that should have been completed long ago. This knowledge area for Source Control Repositories is essentially a means to allow programmers of the code for the wvOASIS system to log any and all changes to the code, including various customizations to fit the unique scenarios for West Virginia state government operations, and to serve as a back-up should any code revisions prove to be in error requiring a reversion to the previous code prior to the error. Without knowledge of this repository or its contents, the State cannot be expected to understand the various customizations that have been applied to the wvOASIS system and how the applicable code was written.

We contacted the current Chief Technology Officer of the Office of Technology, who is not involved in the wvOASIS project, to understand the importance of the areas of knowledge transfer concerning *Create and Maintain Source Control Repositories*. We also inquired if the State not having this knowledge would further increase the cost of the project and the reliance on consultants to operate the system. In his response, he stated:

*Without a centralized data repository of project code information, staffing resources and contractors with institutional knowledge must be maintained for daily operational support. This would cause delays and cost over-runs during project implementation.*

His response confirms that much of the additional reliance on contractors to operate the system and additional costs associated with this reliance is caused by the fact that these knowledge transfers were not completed.

Additionally, we met with six other wvOASIS staff who were assigned knowledge transfer areas to determine their status. Many of those employees who were assigned knowledge transfer areas contained in the *Formal Knowledge Transfer Sign-Off* documents were no longer employed with the State. Of those we could meet with, most confirmed that knowledge transfer areas assigned to them were not completed on the date the *Formal Knowledge Transfer Sign-Off* documents were signed. Further, it was stated that knowledge transfer has still not occurred in several of the areas assigned to them, as of the publishing of this report. Several areas of knowledge transfer were completed by Dataview employees and not CGI, the party contractually responsible for and originally paid to provide the knowledge transfers.

## **The Legislative Auditor Has Concerns of Potential Contract Violations**

Based on these issues, legal counsel for Legislative Services reviewed the State's contracts with CGI, ISG, and Dataview to determine any potential areas of non-compliance. In conjunction with legal counsel, the Legislative Auditor identifies the following potential contract violations by CGI and ISG:

### **Potential CGI Contract Violations**

CGI may have violated its contract with the State for an ERP solution. CGI was contractually obligated to provide training, education, and knowledge transfer to the State so that the State could operate and manage the ERP system on its own. The contract called for CGI to provide educational programs and materials for project team staff and end-users; "*comprehensive training plans*"; and a "*knowledge transfer plan*" that would describe "*the approach for transferring operational responsibility to the State, . . . the tasks the State must be equipped to perform, and measures to assure the requisite knowledge has been delivered and received by the State.*" The contract with CGI also provided that "*CGI will be responsible for the analysis, design,*

*and development of [specific] training materials” and “training for the core project team [that] will cover key concepts of software, technical tools and utilities, and operational aspects.”*

Further, the contract included provisions that prohibited prepayment for services not yet completed, including knowledge transfer tasks. The contract specifically provided that “[a]ny references to prepayment are deleted. Payment will be in arrears.” Further, “[t]he payment milestones [which included knowledge transfer plans and knowledge transfer sign-offs] are based upon specific Deliverables and will be invoiced as **completed**” (Emphasis Added). The contract also described the “*Formal Knowledge Transfer Sign-Offs*” as follows: “**As the knowledge transfer is completed in accordance with the knowledge transfer plan, the State will provide formal sign-offs.**” (Emphasis Added.) The knowledge transfer was not completed at the time the sign-off documents were submitted to the State by CGI. The State has acknowledged, in a comment to CGI’s submission of one of the Formal Knowledge Transfer Sign-Off documents, that “*the deliverable does not meet the agreed requirements for approval, and the Knowledge Transfer is not complete[.]*” However, it was agreed that CGI would modify the document to include a statement that knowledge transfer was ongoing. Therefore, it appears that CGI submitted documentation and an invoice for payment milestones (“Knowledge Transfer Plan” and “Knowledge Transfer Sign-Offs”) not actually completed and that the State paid CGI for these knowledge transfer services. A question remains as to whether the State has paid substantial money to additional contractors (ISG/ICAC and Dataview) on the wvOASIS project for tasks CGI was contractually obligated, but failed, to perform.

## **Potential ISG Contract Violations**

ISG was another contractor related to the wvOASIS project that may have violated its contract provisions. Under the contract between ISG and the State, ISG was contracted to acquire an ERP vendor (which was ultimately CGI). ISG was also contracted to provide subject matter expertise, “project oversight and quality assurance” of the implementation by the ERP solution. Two ISG contractors were listed as reviewers on the Formal Knowledge Transfer Sign-Off documents discussed above. The Legislative Auditor questions how ISG could assure the quality of a deliverable that was not completed. It is unknown at this time whether ISG charged the State to review these documents and, if so, for exactly what service they would have provided the State.

Further, during the bidding process in 2009-2010, the State answered questions by ISG in an addendum to the original Expression of Interest (EOI) issued by the State for the solicitation of bids. The EOI was incorporated into the subsequent contract with ISG by reference. In that addendum, ISG was specifically informed that it was prohibited from “implementation services” of the ERP solution and “*further prohibited from consulting with, advising or subcontracting with any potential ERP vendor on any procurement solicitation issued to develop and/or procure the ERP solution for West Virginia.*” Sometime around 2014, it appears that ISG began implementing, operating, and managing wvOASIS. Further, ISG subcontracted with Dataview to implement the ERP solution. Dataview was a company composed mainly of former CGI employees, who appear to have worked on the wvOASIS project. Therefore, ISG may have performed implementation

services and sub-contracted with the ERP vendor (if former CGI employees who formed – Dataview - a separate company can be considered CGI, the ERP vendor).

## **Consultants Directed by ERP Board to Provide Knowledge Transfer Plan on February 10, 2017**

During the ERP Board meeting on February 10, 2017, the Board recognized the need for Knowledge Transfer and Training. According to the minutes:

*Phase C Knowledge Transfer is a significant concern as some of the most knowledgeable CGI resources plan to roll off at the end of June and sufficient knowledge transfer, particularly concerning Phase C. Financials has not occurred.*

*Mr. Childers (former wvOASIS Project Director) stated that without adequate knowledge transfer the worst case scenario is catastrophic failure of the system and loss of confidence in the system. The State needs to access certain vendor resources as soon as possible.*

The Board then passed a Resolution directing:

*...the consultants to prepare a written knowledge transfer and training plan and provide that written plan to the Board by April 4, 2017.*

We were informed by the current wvOASIS Project Director that the consultant ISG did not fulfill this obligation, nor did the contractor CGI. Ultimately this written knowledge transfer and training plan was completed by wvOASIS staff. He specifically stated:

*Denny, the plan was not done by ISG. It was done by OASIS staff members.*

The Legislative Auditor questions why the high-priced consultants did not complete this directive by the Board, and instead had to be completed by state employees.

## **Conclusion**

The Legislative Auditor's concern regarding these *Formal Knowledge Transfer Sign-Off* documents directly correlates to those concerns expressed in the June 2017 Post Audits Subcommittee meeting regarding circumstances that have allowed contractors to imbed themselves into critical functions of the wvOASIS system, prolonging the State's reliance upon them to operate the system at significantly increased cost to the taxpayer. As discussed, the signing of the *Formal Knowledge Transfer Sign-Off* documents seems to have further allowed CGI, ISG,

and now Dataview, which is coincidentally comprised of former CGI employees who were part of that CGI Implementation Team when the wvOASIS project began, to imbed themselves in critical operating functions of wvOASIS. Up until this past August, state payroll could not be processed without the assistance of these contractors, highlighting one of the many functions of the system which contractors have been so heavily relied upon to perform due to a lack of knowledge transfer to state employees.

The Legislative Auditor will continue to review these *Formal Knowledge Transfer Sign-Off* documents and the outstanding knowledge transfer areas to determine if there were any further areas of non-compliance with CGI in regard to their contract requirements. Also, we are still reviewing other aspects of the wvOASIS project. We will report any conclusions regarding potential areas of non-compliance with the terms of the contracts between CGI, ISG, Dataview, and the State, and any additional issues concerning the wvOASIS project at a later date.

### **Recommendation**

*The Legislative Auditor recommends that the Enterprise Resource Planning Board begin documenting instances of possible non-compliance with contract provisions, such as these knowledge transfers, and consult the Attorney General as to any possible legal action that could be taken due to non-compliance.*



**wvOASIS Deliverable**

*Signatures Below Indicate Acceptance of the Attached Document*

ID	Deliverable Name	Document Authors
18.C	Formal Knowledge Transfer Sign-Off	Joan Lillich, CGI Enterprise Readiness Lead
Document Quality Management		Review Complexity
Jennifer Namey, CGI PMO		Low
Document Reviewers		Dates Submitted / Comments Due
Matt Ellison, State Technical Lead		Date Submitted: 06/11/2014
Satya Srivastava, ISG Technical Lead		Comments Due: 06/17/2014
Lisa Comer, State Enterprise Readiness Lead		Resubmitted: 06/24/2014
Ted Benca, ISG Enterprise Readiness Lead		Comments Due(2): 06/30/2014
		Submitted for Signature: 06/25/2014
Comments		

Name, Title	Signature	Date
Todd Childers, wvOASIS Project Director		6/30/14
Rick Pickens, wvOASIS Project Manager		6/30/14

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## 18.C Formal Knowledge Transfer Sign-Off

**Deliverable Status: 03 – Final Deliverable**

**June 25, 2014**

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## REVISION HISTORY

Version Number	Date	Author	Comments
0.1	06/09/2014	Joan Lillich, CGI Enterprise Readiness Lead	Internal draft completed
0.2	06/10/2014	Jennifer Namey, CGI PMO	CGI QA review
1.0	06/10/2014	Joan Lillich, CGI Enterprise Readiness Lead	Addressed comments from QA review and Submitted for State review
1.02	06/24/2014	Joan Lillich, CGI Enterprise Readiness Lead	Addressed comments from State and ISG

## 1 DOCUMENT ORGANIZATION

This document is organized into the following major sections:

- **Section 1 – Document Organization:** This section lists the deliverable document sections, references the related Deliverable Expectations Document, and defines any common terminology.
- **Section 2 – Introduction:** This section describes the goals and purpose of the deliverable.
- **Section 3 – Knowledge Transfer Sign Off:** This section lists the knowledge transfer activities for which sign-off has been obtained, with references to the formal sign-off documents which will be included in the Knowledge Tracking database on Ensemble.

### 1.A DELIVERABLE EXPECTATION DOCUMENT

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This deliverable is based on the following Deliverable Expectation Document:

- Deliverable #18.A: Formal Knowledge Transfer Sign-Off, approved by the state on 2/25/2013.

### 1.B TERMINOLOGY

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Common terms or acronyms used throughout this document are defined in the Project Glossary on the wvOASIS Ensemble SharePoint site.

## 2 INTRODUCTION

The purpose of Deliverable 18.C, Formal Knowledge Transfer Sign-Off is to identify the completion of Knowledge Transfer activities for Phase C.

This document signifies that Phase C Knowledge Transfer activities have occurred. This Knowledge Transfer delivery fulfills the Phase C activities included in Deliverable 17.A-E Knowledge Transfer Plan. The Knowledge Transfer Tracking Library does not yet contain the State's posted, final versions of their Role Assignment status and outputs. Knowledge Transfer activities have begun for Phase C for the activities listed, but are ongoing throughout Phases D and E and will be completed no later than the end of the support period after full implementation.

The Knowledge Transfer activities for Phase C are associated with Interface and Integration Administration, Integration Configuration and Integration Development as depicted below. State resources were on-boarded by the associated dates shown below in order to complete full knowledge transfer.

**Exhibit 1: Phase C Knowledge Transfer Roles, Onboard Date and Prerequisites**

Role	Onboard date for full knowledge transfer	Prerequisites
Batch Administration	10/1/2013	<ul style="list-style-type: none"> <li>• Experience with Schedulers and Shell scripting</li> <li>• Knowledge of Batch processes within the ERP system</li> </ul>
Configuration Management	9/9/2013	<ul style="list-style-type: none"> <li>• Familiarity with CM concepts</li> <li>• Experience with shell scripting and Ant tools</li> <li>• Expertise with Version Management Tools</li> <li>• infoAdvantage Project Training</li> <li>• Proficiency with Linux</li> </ul>
Database Administration	4/15/2013	<ul style="list-style-type: none"> <li>• Oracle Database Administration and tools</li> </ul>
Extract/Transfer/Load (ETL) Administration or Operation	7/1/2013	<ul style="list-style-type: none"> <li>• infoAdvantage overview session</li> </ul>
Form Development	5/1/2013	<ul style="list-style-type: none"> <li>• infoAdvantage Project Training</li> </ul>

State of West Virginia



Enterprise Resource Planning Project

Role	Onboard date for full knowledge transfer	Pre-requisites
Hardware Engineer/Server Administration	6/1/2013	<ul style="list-style-type: none"> <li>• Knowledge of HP Blade Hardware and configuration</li> <li>• VMWare management</li> <li>• Linux and Windows Administration</li> </ul>
Interface/Integration Administration	7/1/2013	<ul style="list-style-type: none"> <li>• Proficiency with SQL</li> <li>• Interface/Integration Tool training: Integration Manager</li> <li>• Advantage Business Integrator</li> </ul>
Interface/Integration Configuration Management	7/1/2013	<ul style="list-style-type: none"> <li>• Proficiency with Linux</li> <li>• Navigation Capabilities within the Application</li> </ul>
Interface/Integration Development	5/1/2013	<ul style="list-style-type: none"> <li>• PDI Training</li> <li>• Proficiency with Java</li> <li>• Knowledge of SDLC Processes</li> <li>• Knowledge of ETL Methodologies</li> </ul>
Middleware/System Administration	4/5/2013	<ul style="list-style-type: none"> <li>• Knowledge and Expertise in installation, administration and debugging of WebSphere product suite and Business Objects servers</li> </ul>
Release Management	9/9/2013	<ul style="list-style-type: none"> <li>• SDLC processes, High level knowledge of ERP system and the components</li> <li>• Experience with Change management and configuration management processes</li> </ul>
Report Development	5/1/2013	<ul style="list-style-type: none"> <li>• infoAdvantage Project training</li> <li>• Proficiency with Linux</li> <li>• Knowledge of PL/SQL</li> </ul>
Security Administration	8/5/2013	<ul style="list-style-type: none"> <li>• infoAdvantage Project Training</li> <li>• Broad knowledge of ERP systems (Preferably Advantage)</li> <li>• Basic understanding of user level security</li> <li>• Basic knowledge of who the users are and what functions they will be performing</li> <li>• Understand the basic differences between Tables/Queries/Jobs/Documents/P ages/Tabs within Advantage</li> </ul>
Workflow Administration	5/1/2013	<ul style="list-style-type: none"> <li>• Broad knowledge of ERP systems (Preferably Advantage)</li> <li>• Basic Understanding of Workflow</li> </ul>

### 3 KNOWLEDGE TRANSFER SIGN-OFF

This section lists the knowledge transfer activities for which sign-off has been obtained. The formal sign-off documents are in development. When the role assignment forms are completed they will be uploaded to Ensemble by the State Team Leads. The tracking document detail associated with Knowledge transfer by phase, by role, by team and by person will be stored on the main page of Ensemble under the Knowledge Transfer Tracking Library.

As reflected in Deliverable 17.A-E, The Knowledge Transfer Plan, goals are based on the role by phase. For Phase C, Knowledge Transfer is comprised of two goals associated with the Interface/Integration Administration role, two goals associated with the Interface/ Integration Configuration Management role, and one goal associated with the Interface/ Integration Development role (see Exhibit 2: Phase C Knowledge Transfer Progress). State employees who were onboard for full knowledge transfer and their associated roles are identified in the exhibit below.

**Exhibit 2: Phase C Knowledge Transfer State Employees and Associated Roles**

State Employee	Role
Branham, Fred	Hardware Engineer/Server Admin; Middleware/System Admin; Release Management
Cook, John	Interface/Integration Developer
Dolin, Richard	Form and Report Developer
Dye, Eric	Database Admin
Fauver, Lou Ann	Interface/Integration Developer
Garbett, Wilma	Form and Report Developer
Hill, Casey	Batch Admin; Config Mgmt; ETL Admin; Interface/Integration Admin
Humphrey, Lorie	Interface/Integration Lead (Admin, Config, Developer); Release Manager
Russe, Denise	Security and Workflow Admin
Sorongon, David	Form and Report Developer
Walker, Charles	Interface/Integration Developer
Washington, Emily	Security and Workflow Admin
Yoakum, Maria	Form and Report Developer

The exhibits below identify the goals, associated activities and optional learning resources for each knowledge transfer role in Phase C.

## Exhibit 3: Phase C Knowledge Transfer Progress

Phase C Goal	Role	Assigned to	Assigned on	Due on	Completed on	Output
<b>Knowledge Transfer Area: Infrastructure / Technical</b>						
Define, Setup and Execute Batch Cycles	Batch Administration	Casey Hill	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
HP Blades Admin; HP 3Par Storage Admin; VM Ware Admin; Linux and Windows Admin	Hardware Engineer/ Server Admin	Fred Branham	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Manage developed forms In Advantage and Central Pro	Configuration Management	Casey Hill	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Prepare and deploy builds and patches	Configuration Management	Casey Hill	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Create and maintain Source Control Repositories	Configuration Management	Casey Hill	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Create and maintain CM checklists and configurations	Configuration Management	Casey Hill	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Database operational maintenance	Database Administrator	Eric Dye	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
ETL execution, monitoring and trouble shooting	Extract/ Transfer / Load (ETL) Admin or Operation	Casey Hill	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Application Server and Installation and Administration	Middleware/ System Admin	Fred Branham	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>

Phase C Goal	Role	Assigned to	Assigned on	Due on	Completed on	Output
Third Party tools Installation and Configuration	Middleware/ System Admin	Fred Branham	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Sizing and Performance tuning of application servers	Middleware/ System Admin	Fred Branham	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
<b>Knowledge Transfer Area: Reports / Forms (Business Intelligence Objects)</b>						
Design and Develop forms	Form Developer	Richard Dolin	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		Wilma Garbett	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		David Sorongon	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		Maria Yoakum	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Create, Edit, Publish, and Schedule Reports	Report Developer	Richard Dolin	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		Wilma Garbett	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		David Sorongon	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		Maria Yoakum	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Advanced Report Development	Report Developer	Richard Dolin	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> </ul>



Phase C Goal	Role	Assigned to	Assigned on	Due on	Completed on	Output
						<ul style="list-style-type: none"> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		Wilma Garbett	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		David Sorongon	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		Maria Yoakum	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
<b>Knowledge Transfer Area: Interfaces / Integration</b>						
Interface/ Integration development	Interface/ Integration Development	Lorie Humphrey	9/2/2013	1/31/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		John Cook	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		Lou Ann Fauver	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		Charles Walker	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Documentation	Interface/ Integration Administration	Lorie Humphrey	9/2/2013	02/04/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		Casey Hill	9/2/2013	02/04/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Operations Activities	Interface/ Integration Administration	Lorie Humphrey	9/2/2013	02/04/2014		<ul style="list-style-type: none"> <li>• Multiple mentoring sessions.</li> <li>• Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>

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Phase C Goal	Role	Assigned to	Assigned on	Due on	Completed on	Output
		Casey Hill	9/2/2013	02/04/2014		Deliverable 10.C) • Multiple mentoring sessions. • Tech / Ops Training session (wvOASIS Deliverable 10.C)
Server Activity	Interface/ Integration Configuration Management	Lorie Humphrey	9/2/2013	1/31/2014		• Multiple mentoring sessions. • Tech / Ops Training session (wvOASIS Deliverable 10.C)
Configuration Activities	Interface/ Integration Configuration Management	Lorie Humphrey	9/2/2013	1/31/2014		• Multiple mentoring sessions. • Tech / Ops Training session (wvOASIS Deliverable 10.C)
Release Management	Release Management	Fred Branham	3/12/2014	6/2/2014		• Multiple mentoring sessions. • Tech / Ops Training session (wvOASIS Deliverable 10.C)
		Lorie Humphrey	3/12/2014	6/2/2014		• Multiple mentoring sessions. • Tech / Ops Training session (wvOASIS Deliverable 10.C)
<b>Knowledge Transfer Area: Security &amp; Workflow</b>						
InfoAdvantage and Advantage FIN User Management	Security and Admin	Denise Russe	3/12/2014	6/2/2014		• Multiple mentoring sessions. • Tech / Ops Training session (wvOASIS Deliverable 10.C)
		Emily Washington	3/12/2014	6/2/2014		• Multiple mentoring sessions. • Tech / Ops Training session (wvOASIS Deliverable 10.C)
InfoAdvantage and Advantage FIN Security Setup Management	Security and Admin	Denise Russe	3/12/2014	6/2/2014		• Multiple mentoring sessions. • Tech / Ops Training session (wvOASIS Deliverable 10.C)
		Emily Washington	3/12/2014	6/2/2014		• Multiple mentoring sessions. • Tech / Ops Training session (wvOASIS Deliverable 10.C)
User Management	Workflow Admin	Denise Russe	3/12/2014	6/2/2014		• Multiple mentoring sessions. • Tech / Ops Training session (wvOASIS Deliverable 10.C)



Phase C Goal	Role	Assigned to	Assigned on	Due on	Completed on	Output
		Emily Washington	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Rule Management	Workflow Admin	Denise Russe	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		Emily Washington	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
Workflow Operations	Workflow Admin	Denise Russe	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>
		Emily Washington	3/12/2014	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C)</li> </ul>

The exhibits below identify the goals, activities and optional learning resources for each knowledge transfer role in Phase C.

**Exhibit 4: Infrastructure/ Technology - Phase C Knowledge Transfer Roles, Goals, Activities and Optional Learning Resources**

Role	Goals	Activities Demonstrating Completion	Available Optional Learning Resources
<b>Batch Administration</b>	Define, Setup and Execute Batch Cycles	<b>Observe and, If appropriate, Accomplish:</b> Collaborate with functional and technical staff to define various job cycles, frequencies and dependencies; Create a job cycle diagram showing the sequence of execution of the jobs and their dependencies; Install and configure the Job Scheduler; Create the scripts as necessary and setup the job cycles in the scheduler; Execute the batch cycles and monitor the results; Document any issues encountered during execution and work with the support staff to resolve those issues; Support business events such as New Year Table Initialization (NYTI), Annual Close, 1099 processing etc.	T-512: System Administration
<b>Hardware Engineer/ Server Admin</b>	HP Blades Admin; HP 3Par Storage Admin; VM Ware Admin; Linux and Windows Admin	<b>Observe and, If appropriate, Accomplish:</b> Configuration of Virtual Connect Domain; Modify the configuration for a blade; Understand how VC Networking is configured; Troubleshoot issues and install patches; Storage provisioning; Storage presenting to servers; Rebalance/tune storage performance; Configure alerts/reports; Setup VMware security; Modify a virtual server's hardware; Restore a server from a backup; Restore a server from a replicated backup; Issue troubleshooting and patch installation; Provision a virtual server; Provision of SAN boot physical server	T-512: System Administration

Role	Goals	Activities Demonstrating Completion	Available Optional Learning Resources
Configuration Management	Manage developed forms in Advantage and Central Pro	<p><b>Observe then Accomplish:</b> Use Advantage Administrative - Print Server Setup table (IPSV) to set up the connection between Advantage and the Central Pro; Use Advantage Administrative - Print Resource Setup page (IPRS) to set up the printers users will print forms to; Use Advantage Administrative - Print Job Setup (IPJB) to specify what job in Central Pro is used for which template (created in Output Designer) and to specify which objects in the form are global; Use Advantage Administrative - Forms Printing Access Control (FPAC) to connect the printers (specified on the IPRS) and the Print Job Set up- (FPAC) tables; Use Advantage Financial - Form Transformation Definition table (FRMTRAN) to define all forms that can be generated in Advantage; Use the Advantage Financial FRMTRAN table to link to the Print Form Transformation Fields table to specify the order of the fields on the forms (controls the order of the data in the .data file). Use the Advantage BATSETUP Table to set up forms to run in batch; Ensure compiled forms are stored in the proper directory within Central Pro; Use Central Pro (or related flat files) to set up jobs and tasks in the JMD for each form; Use the Central Pro error log to identify and resolve issues with forms printing; Use Central Control to start, pause, resume or shut down Central Pro as needed and to reload the JMD as new jobs are added; Work with Forms Developers to test connections between Advantage and Central Pro and ensure data files are merging with forms as expected</p>	None, other than Shadowing and being Mentored
Configuration Management	Prepare and deploy builds and patches	<p><b>Observe then Accomplish:</b> Build environment set-up for each application component; Build/compile source objects to generate runtime files.</p> <p><b>Observe then Accomplish:</b> Deploy the build, perform CM configuration and execute basic CM tests for successful deployment of the software</p>	None, other than Shadowing and being Mentored
Configuration Management	Create and maintain Source Control Repositories	<p><b>Observe then Accomplish:</b> Setup Source Control Repositories in Perforce and act as a system administrator and manage JIRA/Perforce users</p>	T-504: Advantage design Studio T-512: System Administration T-514 Introduction to Patches and Fixes
Configuration Management	Create and maintain CM checklists and configurations	<p><b>Create/Maintain:</b> CM checklist document and configurations to keep it up to date</p>	T-504: Advantage design Studio T-512: System Administration T-514 Introduction to Patches and Fixes

Role	Goals	Activities Demonstrating Completion	Available Optional Learning Resources
<b>Release Management</b>	Release Management	<b>Observe then Accomplish:</b> Identify, create and implement processes and standards to manage the software development, delivery and deployment; Identify dependencies across multiple products and coordinate software deliveries from different teams to ensure that they all come together as an integrated solution. Control the migration schedule of the software builds and fix packs; Work with Development, Testing and Configuration and Server Management teams to ensure consistency, timely delivery of the software and availability of the system.	None, other than Shadowing and being Mentored
<b>Database Administrator</b>	Database Installation and Administration	<b>Observe then Accomplish:</b> Install Oracle RDBMS and its tools; Create of databases as needed for development, testing and production; Assist CM in patch migration execute the corresponding database scripts; Administration of database objects such as tables, indexes, views, sequences, procedures; Create and maintain database users and the security	T-504: Advantage design Studio T-512: System Administration T-513 Introduction to Performance Tuning and Mentoring
<b>Database Administrator</b>	Database operational maintenance	<b>Observe and Accomplish:</b> Install Oracle RDBMS and its tools; Create of databases as needed for development, testing and production; Assist CM in patch migration execute the corresponding database scripts; Administer database of objects such as tables, indexes, views	T-504: Advantage design Studio T-512: System Administration T-513 Introduction to Performance Tuning and Monitoring
<b>Extract/ Transfer / Load (ETL) Admin or Operation</b>	ETL execution, monitoring and trouble shooting	<b>Observe and Accomplish:</b> ETL jobs execution, Monitoring, Troubleshooting upon failure; ETL failure and restart; Data inconsistency reports; Rejected records and data fixes	None, other than Shadowing and being Mentored
<b>Middleware/ System Admin</b>	Application Server and Installation and Administration	<b>Observe and Accomplish:</b> Install and configure WebSphere, Tomcat, Jboss; Perform administrative and maintenance tasks such as deployment of patches, monitoring of logs and resource usage	T-403: Adobe Designer T-404: Adobe CentralPro T-504: Advantage Design Studio T-505: Pervasive Data Integrator T-506: Forms Administration - Adobe T-512: System Administration
<b>Middleware/ System Admin</b>	Third Party tools Installation and Configuration	<b>Observe then Accomplish:</b> Install and configure Business Objects, PDI and other third party tools; Perform administrative and maintenance tasks such as deployment of patches, monitoring of logs and resource usage; Perform Jira/Perforce software installations; Setup the Jira Defect Management System and the workflow	T-403: Adobe Designer T-404: Adobe CentralPro T-504: Advantage Design Studio T-505: Pervasive Data Integrator T-506: Forms Administration - Adobe T-512: System Administration

Role	Goals	Activities Demonstrating Completion	Available Optional Learning Resources
Middleware/ System Admin	Sizing and Performance tuning of application servers	Observe then Support: Performance testing effort by appropriately sizing and tuning of the application servers	T-512: System Administration T-513 Introduction to Performance Tuning and Monitoring

**Exhibit 5: Reports/ Forms - Phase C Knowledge Transfer Roles, Goals, Activities and Optional Learning Resources**

Role	Goals	Activities Demonstrating Completion	Available Optional Learning Resources
Form Developer	Design and Develop forms	Observe then Accomplish: Participate in the specifications of forms to be developed; Use Adobe Output Designer to develop forms; Compile and save forms to Central Pro; Work with Forms Administrators to test connections between Advantage and Central Pro until forms are working properly	T-507: infoAdvantage 3.9 Overview and Report Methodology T-508: infoAdvantage 3.9 – Web Intelligence
Report Developer	Create and Edit Reports	Observe then Accomplish: Open a report in edit mode /WebIntelligence Rich Client; Select universe (how to select a universe); Select the appropriate universe for reporting needs; Edit configuration files on the application server; Establish the file structure and Security on the FTP server; Nest query filters; Run a query; Create/modify variables using the Variable Editor; Create/modify formulas using the Formula Editor; Add objects to the report (includes adding data objects brought in from the universe after the initial query was run and also adding new objects created through the variable editor; Format the report to adhere to wOASIS report standards (may include, but is not limited to formatting the data or formatting the look and feel of the report); Add table breaks to the report or sections; Add subtotals and subtotal tables to the report; Add charts and graphs to the report	T-507: infoAdvantage 3.9 Overview and Report Methodology T-508: infoAdvantage 3.9 – Web Intelligence
Report Developer	Publish Reports	Observe then Accomplish: Create a publication; Associate a report with a publication; Associate user profile and global variables with a publication; Specify distribution mode (bursting vs. RLS); Specify parameters and distribute a report to users with personalization to email, file server, or FTP server.	T-507: infoAdvantage 3.9 Overview and Report Methodology T-508: infoAdvantage 3.9 – Web Intelligence
Report Developer	Schedule Reports	Observe then Accomplish: Select the appropriate frequency/recurrence for reports, including the calendar options; Modify prompts for the scheduled based on the recipients; Select appropriate formats and destinations for recipients; Select the appropriate event(s) to trigger schedule (if needed)	T-507: infoAdvantage 3.9 Overview and Report Methodology T-508: infoAdvantage 3.9 – Web Intelligence

Role	Goals	Activities Demonstrating Completion	Available Optional Learning Resources
<b>Report Developer</b>	Advanced Report Development	<b>Observe then Accomplish:</b> Create a report with multiple data providers/adding a combined query; Use query on query; Test report using the SQL	T-507: infoAdvantage 3.9 Overview and Report Methodology T-508: infoAdvantage 3.9 – Web Intelligence

**Exhibit 6: Interface/ Integration - Phase C Knowledge Transfer Roles, Goals, Activities and Optional Learning Resources**

Role	Goals	Activities Demonstrating Completion	Available Optional Learning Resources
<b>Interface/ Integration Development</b>	Interface development	<b>Observe then Accomplish:</b> Build development objects with PDI; Unit test development objects; Debug and error resolution; Regression test; Use Advantage Import utilities – Budgeting Import Tool and System Maintenance Utility.	None, other than Shadowing and being Mentored
<b>Interface/ Integration Configuration Management</b>	Server Activities	<b>Observe then Accomplish:</b> Find Configuration files on the application server; Edit Configuration files on the application server; Establish file structure and security on the SFTP Server.	T-505: Pervasive Data Integrator
<b>Interface/ Integration Configuration Management</b>	Configuration Activities	<b>Observe then Accomplish:</b> Establish dependencies between Interfaces; Schedule Interface automation; Document Configurations	None, other than Shadowing and being Mentored
<b>Interface/ Integration Administration</b>	Documentation	<b>Observe then Accomplish:</b> Document procedures for operations; Create and maintain list of interface contacts.	T-506: Forms Administration – Adobe T-507: infoAdvantage 3.9 Overview and Report Methodology
<b>Interface/ Integration Administration</b>	Operations Activities	<b>Observe then Accomplish:</b> Adhoc Reports from Interface tables; Monitor Interface components (Review job results, review error logs, Perform validation/reconciliation); Respond to questions about interface results; Research errors identified in the components; Re-run Interfaces after resolving errors; Run OnDemand Interfaces; Follow procedures when errors occur; Stop/Start the application; Disable/enable Interfaces.	T-506: Forms Administration – Adobe T-507: infoAdvantage 3.9 Overview and Report Methodology

**Exhibit 7: Security/ Workflow - Phase C Knowledge Transfer Roles, Goals, Activities and Optional Learning Resources**

Role	Goals	Activities Demonstrating Completion	Available Optional Learning Resources
<b>Security and Admin</b>	InfoAdvantage and Advantage FIN User Management	<b>Observe then Accomplish:</b> Create folders and folder hierarchy; Create groups and group hierarchy; Create users; Associate users with groups; Associate reports with folders; Associate folders with groups; Assign security access level to group via folders; Use auditor reports to audit the CMC database; Clone WEBI servers; Monitor disk space for FRS input and FRS output; Understand how to manage report instances of scheduled and published reports; Create Universe Connections - Use Unifers Designer; Use query on query	T-510: InfoAdvantage 3.9 - Securing Users and Content T-511: infoAdvantage 3.9 – Dashboard
<b>Security and Admin</b>	InfoAdvantage and Advantage FIN Security Setup Management	<b>Observe then Accomplish:</b> Understand and use auditor reports to audit the CMC database; Clone WEBI servers; Monitor disk space for FRS input and FRS output; Understand how to manage report instances of scheduled and published reports; Create Universe Connections - Using Universe Designer; Using query on query	T-510: InfoAdvantage 3.9 - Securing Users and Content T-511: infoAdvantage 3.9 – Dashboard
<b>Workflow Admin</b>	User Management	<b>Observe then Accomplish:</b> Assign users to Approval Roles; Add/Manage Approvers	F-101 Financial Product Walk through T-503: Workflow & Approvals F-200 Getting Started with Financials
<b>Workflow Admin</b>	Rule Management	<b>Observe then Accomplish:</b> Add/Manage approval Roles; Add/Manage Approval Comments; Add/Manage Approval Fields; Add/Manage Approval Rules; Add/Manage Approval Conditions	F-101 Financial Product Walk through T-503: Workflow & Approvals F-200 Getting Started with Financials
<b>Workflow Admin</b>	Workflow Operations	<b>Observe then Accomplish:</b> Monitor workflow queue	F-101 Financial Product Walk through T-503: Workflow & Approvals F-200 Getting Started with Financials

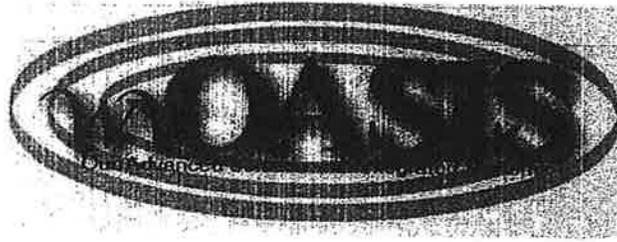


**wvOASIS Deliverable**

*Signatures Below Indicate Acceptance of the Attached Document*

ID	Deliverable Name	Document Authors
18.D	Formal Knowledge Transfer Sign-Off	Karen Wardrip, CGI Change Management Lead
Document Quality Management		Review Complexity
Jennifer Namey, CGI PMO		Low
Document Reviewers		Dates Submitted / Comments Due
Matt Ellison, David Holmes, Lisa Comer, Ted Benca		Date Submitted: 06/17/2015 Comments Due: 06/23/2015 Submitted for Signature: 08/28/2015
Comments		

Name, Title	Signature	Date
<b>Todd Childers, wvOASIS Project Director</b>		
Signature:		10-2-15
<b>Rick Pickens, wvOASIS Project Manager</b>		
Signature:		10/19/15



## 18.D Formal Knowledge Transfer Sign-Off

**Deliverable Status: 03 – Final Deliverable**

**August 28, 2015**

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## REVISION HISTORY

REVISION HISTORY			
0.1	06/10/2015	Karen Wardrip, CGI Change Management Lead	Internal draft completed
0.2	06/17/2015	Karen Wardrip	Initial Submission
1.0	07/08/2015	Karen Wardrip	Final Deliverable



# 1 DOCUMENT ORGANIZATION

This document is organized into the following major sections:

- **Section 1 – Document Organization:** This section lists the deliverable document sections, references the related Deliverable Expectations Document, and defines any common terminology.
- **Section 2 – Introduction:** This section describes the goals and purpose of the deliverable.
- **Section 3 – Knowledge Transfer Sign Off:** This section lists the knowledge transfer activities for which sign-off has been obtained, with references to the formal sign-off documents which will be included in the Knowledge Tracking database on Ensemble.

## 1.A DELIVERABLE EXPECTATION DOCUMENT

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This deliverable is based on the following Deliverable Expectation Document:

- Deliverable #18.A: Formal Knowledge Transfer Sign-Off, approved by the state on 2/25/2013.

## 1.B TERMINOLOGY

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Common terms or acronyms used throughout this document are defined in the Project Glossary on the [WV OASIS Ensemble SharePoint site](#).



## 2 INTRODUCTION

The purpose of Deliverable 18.D, Formal Knowledge Transfer Sign-Off is to identify the completion of Knowledge Transfer activities for Phase D The Knowledge Transfer areas

This document signifies that Phase D Knowledge Transfer activities have occurred. This Knowledge Transfer delivery fulfills the Phase D activities included in Deliverable 17.A-E Knowledge Transfer Plan. The Knowledge Transfer Tracking Library does not yet contain the State's posted, final versions of their Role Assignment status and outputs. As identified in the Knowledge Transfer plan, some Knowledge Transfer activities were applicable for more than one Phase and some are Phase D specific. In addition, Knowledge Transfer activities have begun for Phase D for the activities listed, but some are ongoing throughout Phases D and E and will be completed no later than the end of the support period after implementation.

The Knowledge Transfer activities for Phase D are associated with Interface and Integration Administration, Integration Configuration and Integration Development as depicted below. State resources were on-boarded by the associated dates shown below in order to complete full knowledge transfer.

**Exhibit 1: Phase D Knowledge Transfer Roles, Onboard Date and Prerequisites**

Batch Administration	10/1/2013	<ul style="list-style-type: none"> <li>• Experience with Schedulers and Shell scripting</li> <li>• Knowledge of Batch processes within the ERP system</li> </ul>
Configuration Management	9/9/2013	<ul style="list-style-type: none"> <li>• Familiarity with CM concepts</li> <li>• Experience with shell scripting and Ant tools</li> <li>• Expertise with Version Management Tools</li> <li>• InfoAdvantage Project Training</li> <li>• Proficiency with Linux</li> </ul>
Database Administration	4/15/2013	<ul style="list-style-type: none"> <li>• Oracle Database Administration and tools</li> </ul>
Extract/Transfer/Load (ETL) Administration or Operation	7/1/2013	<ul style="list-style-type: none"> <li>• InfoAdvantage overview session</li> </ul>
Form Development	5/1/2013	<ul style="list-style-type: none"> <li>• InfoAdvantage Project Training</li> </ul>



Hardware Engineer/Server Administration	6/1/2013	<ul style="list-style-type: none"> <li>• Knowledge of HP Blade Hardware and configuration</li> <li>• VMWare management</li> <li>• Linux and Windows Administration</li> </ul>
Interface/Integration Administration	7/1/2013	<ul style="list-style-type: none"> <li>• Proficiency with SQL</li> <li>• Interface/Integration Tool training: Integration Manager</li> <li>• Advantage Business Integrator</li> </ul>
Interface/Integration Configuration Management	7/1/2013	<ul style="list-style-type: none"> <li>• Proficiency with Linux</li> <li>• Navigation Capabilities within the Application</li> </ul>
Interface/Integration Development	5/1/2013 and 1/1/2014	<ul style="list-style-type: none"> <li>• PDI Training</li> <li>• Proficiency with Java</li> <li>• Knowledge of SDLC Processes</li> <li>• Knowledge of ETL Methodologies</li> </ul>
Middleware/System Administration	4/5/2013	<ul style="list-style-type: none"> <li>• Knowledge and Expertise in Installation, administration and debugging of WebSphere product suite and Business Objects servers</li> </ul>
Release Management	9/9/2013	<ul style="list-style-type: none"> <li>• SDLC processes, High level knowledge of ERP system and the components</li> <li>• Experience with Change management and configuration management processes</li> </ul>
Report Development	5/1/2013	<ul style="list-style-type: none"> <li>• InfoAdvantage Project training</li> <li>• Proficiency with Linux</li> <li>• Knowledge of PL/SQL</li> </ul>
Reports Development: HR Universes	9/23 – 26, 2013	<p>The Universes reviewed were:</p> <ul style="list-style-type: none"> <li>• Personnel</li> <li>• Position Control</li> <li>• Leave</li> <li>• Deductions</li> <li>• Benefits</li> <li>• Pay Information</li> <li>• Pay Cycle</li> <li>• Payroll</li> </ul>
Security Administration	8/5/2013 and 2/1/2014	<ul style="list-style-type: none"> <li>• InfoAdvantage Project Training</li> <li>• Broad knowledge of ERP systems (Preferably Advantage)</li> <li>• Basic understanding of user level security for Advantage and Kronos Time and Leave</li> <li>• Basic knowledge of who the users are and what functions they will be performing for Advantage and Kronos Time and Leave</li> <li>• Understand the basic differences between Tables/Queries/Jobs/Documents/P ages/Tabs within Advantage</li> </ul>



**Exhibit 3: Phase D Knowledge Transfer Progress**

Phase D Goal	Role	Assigned On	Due On	Completed On
<b>Knowledge Transfer Area: Infrastructure / Technical</b>				
Define, Setup and Execute Batch Cycles	Batch Administration	Casey Hill	3/12/2014	6/2/2014
HP Blades Admin; HP 3Par Storage Admin; VM Ware Admin; Linux and Windows Admin	Hardware Engineer/ Server Admin	Fred Branham	3/12/2014	6/2/2014
Manage developed forms in Advantage and Central Pro	Configuration Management	Casey Hill	3/12/2014	6/2/2014
Prepare and deploy builds and patches	Configuration Management	Casey Hill	3/12/2014	6/2/2014
Create and maintain Source Control Repositories	Configuration Management	Casey Hill	3/12/2014	6/2/2014
Create and maintain CM checklists and configurations	Configuration Management	Casey Hill	3/12/2014	6/2/2014
Database operational maintenance	Database Administrator	Eric Dye	3/12/2014	6/2/2014
ETL execution, monitoring and trouble shooting	Extract/ Transfer / Load (ETL) Admin or Operation	Casey Hill	3/12/2014	6/2/2014
Application Server and Installation and Administration	Middleware/ System Admin	Fred Branham	3/12/2014	6/2/2014

- Multiple mentoring sessions.
- Tech / Ops Training session (wWOASIS Deliverable 10.C and 10.D)
- Multiple mentoring sessions.
- Tech / Ops Training session (wWOASIS Deliverable 10.C and 10.D)
- Multiple mentoring sessions.
- Tech / Ops Training session (wWOASIS Deliverable 10.C and 10.D)
- Multiple mentoring sessions.
- Tech / Ops Training session (wWOASIS Deliverable 10.C and 10.D)
- Multiple mentoring sessions.
- Tech / Ops Training session (wWOASIS Deliverable 10.C and 10.D)
- Multiple mentoring sessions.
- Tech / Ops Training session (wWOASIS Deliverable 10.C and 10.D)
- Multiple mentoring sessions.
- Tech / Ops Training session (wWOASIS Deliverable 10.C and 10.D)
- Multiple mentoring sessions.
- Tech / Ops Training session (wWOASIS Deliverable 10.C and 10.D)
- Multiple mentoring sessions.
- Tech / Ops Training session (wWOASIS Deliverable 10.C and 10.D)





Phase/Goal	Role	Assigned on	Due on	Completed	Output
Third Party tools Installation and Configuration	Middleware/ System Admin	Fred Branham	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvoasis Deliverable 10.C and 10.D)</li> </ul>
Sizing and Performance tuning of application servers	Middleware/ System Admin	Fred Branham	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvoasis Deliverable 10.C and 10.D)</li> </ul>
<b>Knowledge Transfer Area: Reports / Forms (Business Intelligence Objects)</b>					
Design and Develop forms	Form Developer	Richard Dolin	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvoasis Deliverable 10.C and 10.D)</li> </ul>
		Wilma Garbett	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvoasis Deliverable 10.C and 10.D)</li> </ul>
		David Sorongon	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvoasis Deliverable 10.C and 10.D)</li> </ul>
		Maria Yoakum	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvoasis Deliverable 10.C and 10.D)</li> </ul>
		Richard Dolin	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvoasis Deliverable 10.C and 10.D)</li> </ul>
Create, Edit, Publish, and Schedule Reports	Report Developer	Wilma Garbett	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvoasis Deliverable 10.C and 10.D)</li> </ul>
		David Sorongon	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvoasis Deliverable 10.C and 10.D)</li> </ul>
		Maria Yoakum	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvoasis Deliverable 10.C and 10.D)</li> </ul>
Advanced Report Development	Report Developer	Richard Dolin	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> </ul>





Phase ID / Goal	Role	Assigned On	Dispos On	Completed On	Output
					<ul style="list-style-type: none"> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> <li>Multiple mentoring sessions.</li> </ul>
		Wilma Garbett	3/12/2014	6/2/2014	
		David Sorongon	3/12/2014	6/2/2014	
		Maria Yoakum	3/12/2014	6/2/2014	
<b>Knowledge Transfer Area: Interfaces / Integration</b>					
Interface/ Integration development	Interface/ Integration Development	Lorie Humphrey	9/2/2013	1/31/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D and 10.D)</li> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D and 10.D)</li> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D and 10.D)</li> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D and 10.D)</li> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D and 10.D)</li> </ul>
		John Cook	3/12/2014	6/2/2014	
		Lou Ann Fauver	3/12/2014	6/2/2014	
		Charles Walker	3/12/2014	6/2/2014	
Documentation	Interface/ Integration Administration	Lorie Humphrey	9/2/2013	02/04/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>
		Casey Hill	9/2/2013	02/04/2014	
Operations Activities	Interface/ Integration Administration	Lorie Humphrey	9/2/2013	02/04/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>





Phase/D Goal	Phase	Assigned On	Due On	Completed On	Output
Server Activity		Casey Hill	02/04/2014		<ul style="list-style-type: none"> <li>Deliverable 10.C and 10.D)</li> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>
Configuration Activities	Interface/ Integration Configuration Management	Lorle Humphrey	1/31/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>
Release Management	Interface/ Integration Configuration Management	Lorle Humphrey	1/31/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>
	Release Management	Fred Branham	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>
		Lorle Humphrey	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>
<b>Knowledge Transfer Area: Security &amp; Workflow</b>					
InfoAdvantage and Advantage FIN User Management	Security and Admin	Denise Russe	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>
		Emily Washington	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>
InfoAdvantage and Advantage FIN Security Setup Management	Security and Admin	Denise Russe	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>
		Emily Washington	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>
User Management	Workflow Admin	Denise Russe	6/2/2014		<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>





Phase/D goal	Role	Assigned By	Assigned On	Completed On	Output
		Emily Washington	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>
Rule Management	Workflow Admin	Denise Russe	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>
		Emily Washington	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>
Workflow Operations	Workflow Admin	Denise Russe	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>
		Emily Washington	3/12/2014	6/2/2014	<ul style="list-style-type: none"> <li>Multiple mentoring sessions.</li> <li>Tech / Ops Training session (wvOASIS Deliverable 10.C and 10.D)</li> </ul>





The exhibits below identify the goals, activities and optional learning resources for each knowledge transfer role in Phase D.

**Exhibit 4: Infrastructure/ Technology - Phase D Knowledge Transfer Roles, Goals, Activities and Optional Learning Resources**

<p><b>Batch Administration</b></p>	<p>Define, Setup and Execute Batch Cycles</p>	<p><b>Observe and, if appropriate, Accomplish:</b> Collaborate with functional and technical staff to define various job cycles, frequencies and dependencies; Create a job cycle diagram showing the sequence of execution of the jobs and their dependencies; Install and configure the Job Scheduler; Create the scripts as necessary and setup the job cycles in the scheduler; Execute the batch cycles and monitor the results; Document any issues encountered during execution and work with the support staff to resolve those issues.</p>	<p>T-512: System Administration</p>
<p><b>Hardware Engineer/ Server Admin</b></p>	<p>HP Blades Admin; HP 3Par Storage Admin; VM Ware Admin; Linux and Windows Admin</p>	<p><b>Observe and, if appropriate, Accomplish:</b> Configuration of Virtual Connect Domain; Modify the configuration for a blade; Understand how VC Networking is configured; Troubleshoot issues and install patches; Storage provisioning; Storage presenting to servers; Rebalance/tune storage performance; Configure alerts/reports; Setup VMware security; Modify a virtual server's hardware; Restore a server from a backup; Restore a server from a replicated backup; Issue troubleshooting and patch installation; Provision a virtual server; Provision of SAN boot physical server</p>	<p>T-512: System Administration</p>





<p><b>Configuration Management</b></p>	<p>Manage developed forms in Advantage and Central Pro</p>	<p><b>Observe then Accomplish:</b> Use Advantage Administrative - Print Server Setup table (PSV) to set up the connection between Advantage and the Central Pro; Use Advantage Administrative - Print Resource Setup page (IPRS) to set up the printers users will print forms to; Use Advantage Administrative - Print Job Setup (IPJB) to specify what job in Central Pro is used for which template (created in Output Designer) and to specify which objects in the form are global; Use Advantage Administrative - Forms Printing Access Control (FPAC) to connect the printers (specified on the (IPRS) and the Print Job Set up- (FPAC) tables. Use the Advantage BATSETUP Table to set up forms to run in batch; Ensure compiled forms are stored in the proper directory within Central Pro; Use Central Pro (or related flat files) to set up jobs and tasks in the JMD for each form; Use the Central Pro error log to identify and resolve issues with forms printing; Use Central Control to start, pause, resume or shut down Central Pro as needed and to reload the JMD as new jobs are added; Work with Forms Developers to test connections between Advantage and Central Pro and ensure data files are merging with forms as expected</p>	<p>None, other than Shadowing and being Mentored</p>
<p><b>Configuration Management</b></p>	<p>Prepare and deploy builds and patches</p>	<p><b>Observe then Accomplish:</b> Build environment set-up for each application component; Build/compile source objects to generate runtime files.</p> <p><b>Observe then Accomplish:</b> Deploy the build, perform CM configuration and execute basic CM tests for successful deployment of the software</p>	<p>None, other than Shadowing and being Mentored</p>
<p><b>Configuration Management</b></p>	<p>Create and maintain Source Control Repositories</p>	<p><b>Observe then Accomplish:</b> Setup Source Control Repositories in Perforce and act as a system administrator and manage JIRA/Perforce users</p>	<p>T-504: Advantage design Studio T-512: System Administration T-514 Introduction to Patches and Fixes</p>
<p><b>Configuration Management</b></p>	<p>Create and maintain CM checklists and configurations</p>	<p>Create/Maintain: CM checklist document and configurations to keep it up to date</p>	<p>T-504: Advantage design Studio T-512: System Administration T-514 Introduction to Patches and Fixes</p>



<p><b>Release Management</b></p>	<p>Release Management</p>	<p><b>Observe then Accomplish:</b> Identify, create and implement processes and standards to manage the software development, delivery and deployment; Identify dependencies across multiple products and coordinate software deliveries from different teams to ensure that they all come together as an integrated solution. Control the migration schedule of the software builds and fix packs; Work with Development, Testing and Configuration and Server Management teams to ensure consistency, timely delivery of the software and availability of the system.</p>	<p>None, other than Shadowing and being Mentored</p>
<p><b>Database Administrator</b></p>	<p>Database Installation and Administration</p>	<p><b>Observe then Accomplish:</b> Install Oracle RDBMS and its tools; Create of databases as needed for development, testing and production; Assist CM in patch migration execute the corresponding database scripts; Administration of database objects such as tables, indexes, views, sequences, procedures; Create and maintain database users and the security</p>	<p>T-504: Advantage design Studio T-512: System Administration T-513 Introduction to Performance Tuning and Mentoring</p>
<p><b>Database Administrator</b></p>	<p>Database operational maintenance</p>	<p><b>Observe and Accomplish:</b> Install Oracle RDBMS and its tools; Create of databases as needed for development, testing and production; Assist CM in patch migration execute the corresponding database scripts; Administer database of objects such as tables, indexes, views</p>	<p>T-504: Advantage design Studio T-512: System Administration T-513 Introduction to Performance Tuning and Monitoring</p>
<p><b>Extract/ Transfer / Load (ETL) Admin or Operation</b></p>	<p>ETL execution, monitoring and trouble shooting</p>	<p><b>Observe and Accomplish:</b> ETL jobs execution, Monitoring, Troubleshooting upon failure; ETL failure and restart; Data inconsistency reports; Rejected records and data fixes</p>	<p>None, other than Shadowing and being Mentored</p>
<p><b>Middleware/ System Admin</b></p>	<p>Application Server and Installation and Administration</p>	<p><b>Observe and Accomplish:</b> Install and configure WebSphere, Tomcat, Jboss; Perform administrative and maintenance tasks such as deployment of patches, monitoring of logs and resource usage</p>	<p>T-403: Adobe Designer T-404: Adobe CentralPro T-504: Advantage Design Studio T-505: Pervasive Data Integrator T-506: Forms Administration - Adobe T-512: System Administration</p>
<p><b>Middleware/ System Admin</b></p>	<p>Third Party tools Installation and Configuration</p>	<p><b>Observe then Accomplish:</b> Install and configure Business Objects, PDI and other third party tools; Perform administrative and maintenance tasks such as deployment of patches, monitoring of logs and resource usage; Perform Jira/Perforce software installations; Setup the Jira Defect Management System and the workflow</p>	<p>T-403: Adobe Designer T-404: Adobe CentralPro T-504: Advantage Design Studio T-505: Pervasive Data Integrator T-506: Forms Administration - Adobe T-512: System Administration</p>







Report Developer	Advanced Report Development	Observe then Accomplish: Create a report with multiple data providers/jacking a combined query; Use query on query; Test report using the SQL.	T-507: InfoAdvantage 3.9 Overview and Report Methodology T-508: InfoAdvantage 3.9 – Web Intelligence
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**Exhibit 6: Interface/ Integration - Phase D Knowledge Transfer Roles, Goals, Activities and Optional Learning Resources**

Interface/ Integration Development	Interface development	Observe then Accomplish: Build development objects with PDI; Unit test development objects; Debug and error resolution; Regression test; Use Advantage Import utilities – Budgeting Import Tool and System Maintenance Utility.	None, other than Shadowing and being Mentored
Interface/ Integration Configuration Management	Server Activities	Observe then Accomplish: Find Configuration files on the application server; Edit Configuration files on the application server; Establish file structure and security on the SFTP Server.	T-505: Pervasive Data Integrator
Interface/ Integration Configuration Management	Configuration Activities	Observe then Accomplish: Establish dependencies between Interfaces; Schedule Interface automation; Document Configurations	None, other than Shadowing and being Mentored
Interface/ Integration Administration	Documentation	Observe then Accomplish: Document procedures for operations; Create and maintain list of interface contacts.	T-506: Forms Administration – Adobe T-507: InfoAdvantage 3.9 Overview and Report Methodology
Interface/ Integration Administration	Operations Activities	Observe then Accomplish: Adhoc Reports from Interface tables; Monitor Interface components (Review job results, review error logs, Perform validation/reconciliation); Respond to questions about interface results; Research errors identified in the components; Re-run Interfaces after resolving errors; Run OnDemand Interfaces; Follow procedures when errors occur; Stop/Start the application; Disable/enable Interfaces.	T-506: Forms Administration – Adobe T-507: InfoAdvantage 3.9 Overview and Report Methodology





**Exhibit 7: Security/ Workflow - Phase D Knowledge Transfer Roles, Goals, Activities and Optional Learning Resources**

<b>Security and Admin</b>	InfoAdvantage and Advantage User Management	<b>Observe then Accomplish:</b> Create folders and folder hierarchy; Create groups and group hierarchy; Create users; Associate users with groups; Associate reports with folders; Associate folders with groups; Assign security access level to group via folders; Use auditor reports to audit the CMC database; Clone WEBI servers; Monitor disk space for FRS input and FRS output; Understand how to manage report instances of scheduled and published reports; Create Universe Connections - Use Universe Designer; Use query on query	T-510: InfoAdvantage 3.9 - Securing Users and Content T-511: InfoAdvantage 3.9 – Dashboard
<b>Security and Admin</b>	InfoAdvantage and Advantage Security Setup Management	<b>Observe then Accomplish:</b> Understand and use auditor reports to audit the CMC database; Clone WEBI servers; Monitor disk space for FRS input and FRS output; Understand how to manage report instances of scheduled and published reports; Create Universe Connections - Using Universe Designer; Using query on query	T-510: InfoAdvantage 3.9 - Securing Users and Content T-511: InfoAdvantage 3.9 – Dashboard
<b>Workflow Admin</b>	User Management	<b>Observe then Accomplish:</b> Assign users to Approval Roles; Add/Manage Approvers	H-101 HRM Product Walk through T-503: Workflow & Approvals H-200 Getting Started with HRM
<b>Workflow Admin</b>	Rule Management	<b>Observe then Accomplish:</b> Add/Manage approval Roles; Add/Manage Approval Comments; Add/Manage Approval Fields; Add/Manage Approval Rules; Add/Manage Approval Conditions	H-101 HRM Product Walk through T-503: Workflow & Approvals H-200 Getting Started with HRM
<b>Workflow Admin</b>	Workflow Operations	<b>Observe then Accomplish:</b> Monitor workflow queue	H-101 HRM Product Walk through T-503: Workflow & Approvals H-200 Getting Started with HRM





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